



TOOLS NEEDED

Qty	Description
1	Phillips screwdriver #1 (nonmagnetic)
1	Properly grounded electrostatic discharge (ESD) wrist strap and mat
4	Small containers for storing screws (optional)

GETTING READY

Before you install the DX8100-ISCI SCSI card, familiarize yourself with the instructions in this Tech Tip. The steps to install the external video storage upgrade are summarized as follows:

1. Unpack the DX8100-ISCI kit and check that you have all the necessary kit components.
2. Verify that you have the required tools to install the SCSI card. For information about the tools required to install the SCSI card, refer to Tools Needed table above.
3. Shut down the DX8100 Series DVR. For information about shutting down the DX8100, refer to the DX8100 Installation Manual, Operation and Programming manual, or DX8100 Server online Help.
4. Unplug the power cord from the wall socket.

⚠ WARNING: It is critical that the unit be unplugged for your safety. You must remove the power cord because current continues to flow through the DX8100 even when the unit is off. Remove the power cord from the wall socket first, and then from the rear of the DVR.





Figure 2. Removing Power Cord from Wall

1. Remove the power cord from the back of the DX8100.
2. Ensure that the DX8100 Series DVR and all of its components are protected against ESD. Before handling any electronic components, you should take steps to ground yourself properly so that any built-up static electric charges are dissipated away from the unit. The most effective method for combating ESD is to use a properly grounded wrist strap. Refer to Figure 4.



Figure 3. Removing Power Cord from DX8100

NOTE: If you do not have access to a grounded wrist strap, you can discharge any built-up static by periodically touching an unpainted section of the chassis.

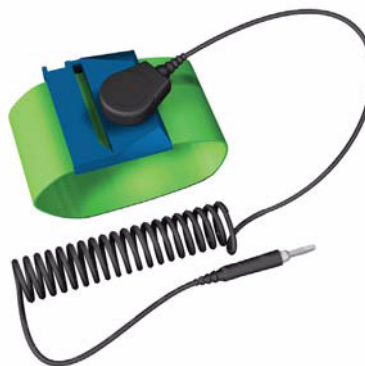


Figure 4. ESD Protection

1. Move the Main Capture Card to slot 3.
2. Install the DX8100-ISCI SCSI card and cabling.

PREPARING THE DX8100 FOR SCSI CARD INSTALLATION

This section describes how to access the DX8100 interior. For information about mounting the DX8100 in a rack, refer to the DX8100 Installation manual.

OPENING THE DX8100 CHASSIS

If the DX8100 is mounted in a rack, the DX8100 must be removed from the rack. Two people might be required to lift and remove the DX8100. To move the DX8100 to an area that will provide full access to the DX8100's internal components do the following:

⚠ WARNING: Make sure the unit is turned off and you are wearing a properly grounded ESD wrist strap before attempting to open the DX8100 chassis cover.

1. Disconnect any cables or connections that may restrict access or interfere with the removal of the unit.
2. (If applicable) Unscrew the fasteners that are securing the unit in the rack, and carefully lift the unit out of the rack.
3. Place the DX8100 on a flat surface with ample workspace.

⚠ WARNING: The chassis assembly includes parts with sharp edges. To avoid injury, use caution when working in and around the DX8100's chassis and components.

4. Using a Phillips screwdriver, remove the chassis cover, referring to Figure 5:
 - a. Remove the top two screws on the left and right side panels of the DX8100.
 - b. Remove the four silver screws (on the top of the unit) fastening the cover to the back of the unit.
 - c. Carefully remove the chassis cover by sliding it back and up. Set aside the cover.



Figure 5. Removing Chassis Cover



UNDERSTANDING THE DX8100 COMPONENT LAYOUT

Figure 6 and Table B provide information about the DX8100's slot assignments and major components. (Slots on the motherboard are labeled differently.)

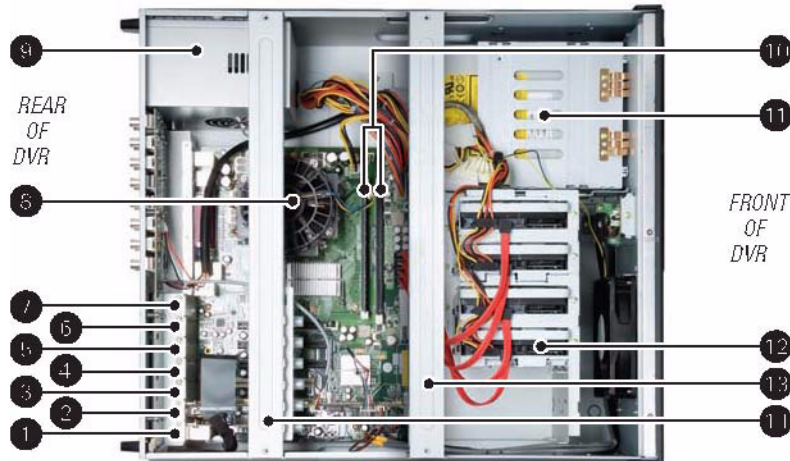


Figure 6. DX8100 Interior

Table B. DX8100 Slot Assignments and Major Components

Item	Description	Item	Description
1	Slot 1: PTZ card installed in PCI connector	8	CPU
2	Slot 2: Capture Card installed in PCI connector	9	Power supply
3	Slot 3: PCI connector	10	DIMM sockets (RAM)
4	Slot 4: x1 PCI Express connectors	11	DVD-RW
5	Slot 5: x1 PCI Express connectors	12	Hard drive bay
6	Slot 6: x16 PCI Express connector	13	Front cross-brace
7	Slot 7: Optional Expansion Unit I/O card	14	Rear cross-brace

MOVING THE MAIN CAPTURE CARD TO SLOT 3

In the DX8108 and DX8116 base DVRs, the main Capture Card is installed in slot 2. To install the DX8100-ISCI SCSI card, the main Capture Card must be removed from slot 2 and re-installed into slot 3. This step is necessary because the DX8100-ISCI SCSI card must be physically installed in slot 2.

Move the main Capture Card from slot 2 to slot 3:

1. To ready the main Capture Card for removal:
 - a. Remove the rear cross-brace.
 - b. Remove the slot cover for slot 3 and retain the screw.
 - c. Remove the bracket screw that secures the main Capture Card in slot 2.
 - d. Disconnect the 32-pin ribbon cable.
 - e. Disconnect the 5-wire TV/Audio cable and lay the cable over the DX8100 I/O Card.
 - f. Disconnect the 7-wire TV/Audio cable.
 - g. Disconnect the 2-wire audio cable.

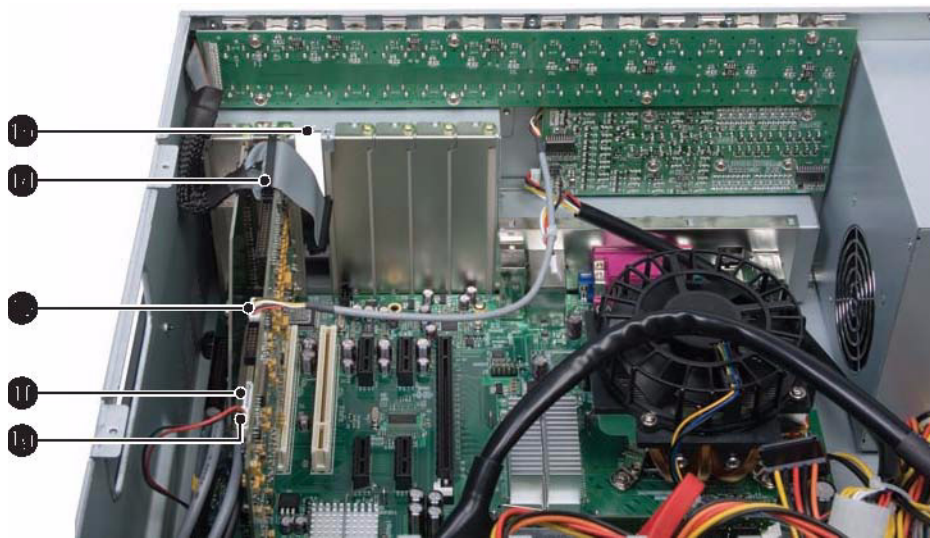


Figure 7. Ready Main Capture Card for Removal

2. To move the main Capture Card:
 - a. Remove the capture Card from slot 2 and firmly seat the Capture Card in the PCI connector for slot 3.
 - b. Secure the Capture Card bracket with the screw.
 - c. Reconnect the 5-wire TV/Audio cable.

- d. Reconnect the 7-wire TV/Audio cable.
- e. Reconnect the 2-wire audio cable.

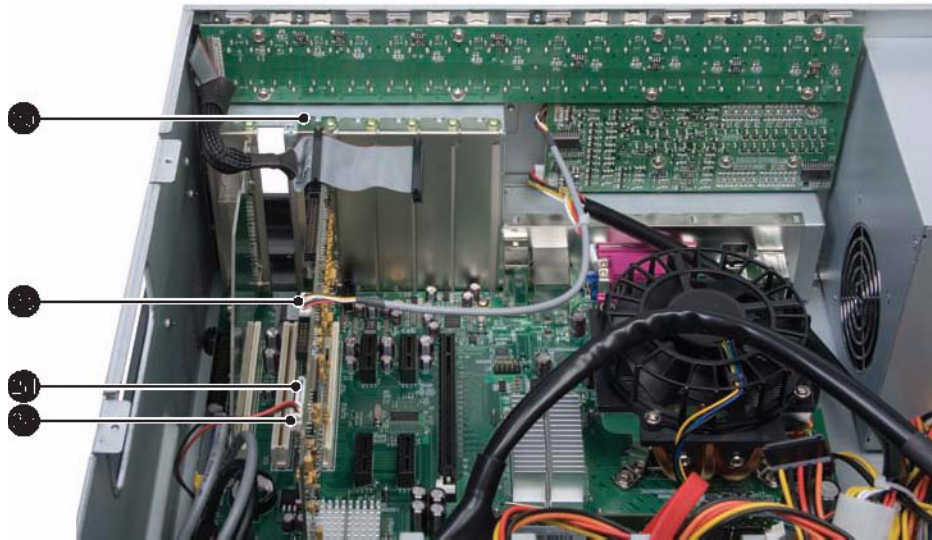


Figure 8. Moving Main Capture Card

INSTALLING THE DX8100 SCSI CARD

The DX8100-ISC SI SCSI card is shipped separately. The SCSI card is installed in the PCI slot 2 on the motherboard.

To Install the DX8100-ISC SI SCSI card:

1. Verify that the main Capture Card is installed in slot 3. For information about moving the main Capture Card from slot 2 to slot 3, refer to Moving the Main Capture Card to Slot 3 on page 5.
2. To install the SCSI card into slot 2:
 - a. Firmly seat the DX8100-ISC SI SCSI card in the PCI connector for slot 2.
 - b. Secure the DX8100-ISC SI SCSI card bracket with the screw removed from slot 3.
 - c. Reconnect the 32-pin ribbon cable to the first 32-pin connector (on the main Capture Card) in slot 3.
3. Replace the rear cross-brace.

Note: Connect the 68-pin high density cable to the bottom port of the SCSI card. Connect the other side to Host 0 on the bottom port of the SATABoy.

4. This completes installation of the SCSI card. Next, reassemble the DX8100 and then install the SATABoy. For information about reassembling the unit, refer to *Reassembling the Unit* on page 7.

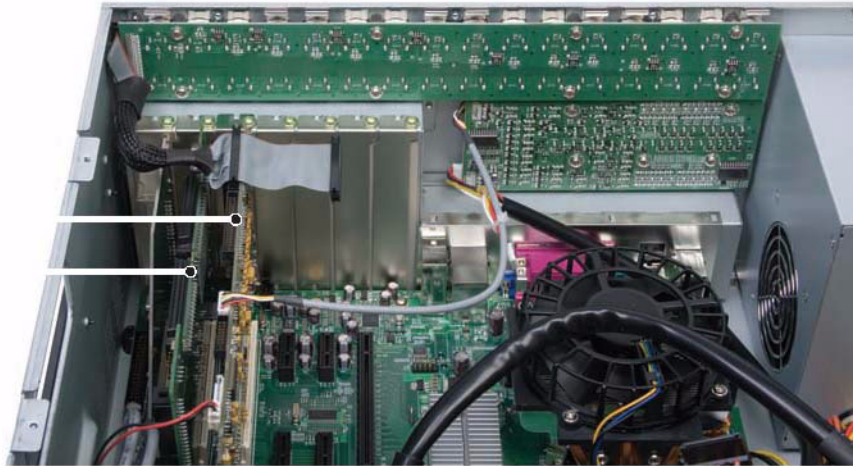


Figure 9. Installing the SCSI Card

REASSEMBLING THE UNIT

1. Replace the chassis cover using the screws you removed from the side and rear of the unit. Refer to Figure 10.
2. Attach the silver product label that came with your upgrade kit to the inside of your DVR's front door.
 - a. Remove the paper backing from the product label.
 - b. Carefully place the label, adhesive-side down, on a free section of the inside of the door.
 - c. Press down firmly to ensure that the label properly adheres to the inside of the door.



Figure 10. Replacing Chassis Cover



NOTE: In the event that your unit or its components require service, specific labels must be present and appropriately affixed to the unit's door. Pelco product support personnel use these labels to identify the exact components installed in your system. A separate product label is required for each upgrade component installed on the DX8100.

1. Reinstall the unit in a rack enclosure if necessary, and reconnect all cables and peripheral equipment you removed earlier.
2. The final step is to install the SATABoy.

SETTING UP THE SATABOY

For New SATABoy Only:

Install the HDs into the SATABoy system:

1. Lift the HD latch and place it into the SATABoy system.
2. Push the round button down to secure HD in place. (See Figure 1)
3. The system can have 8 HDs or 14 HDs.
 - a. Install the drive covers for 8 HDs / 14 HDs unit.

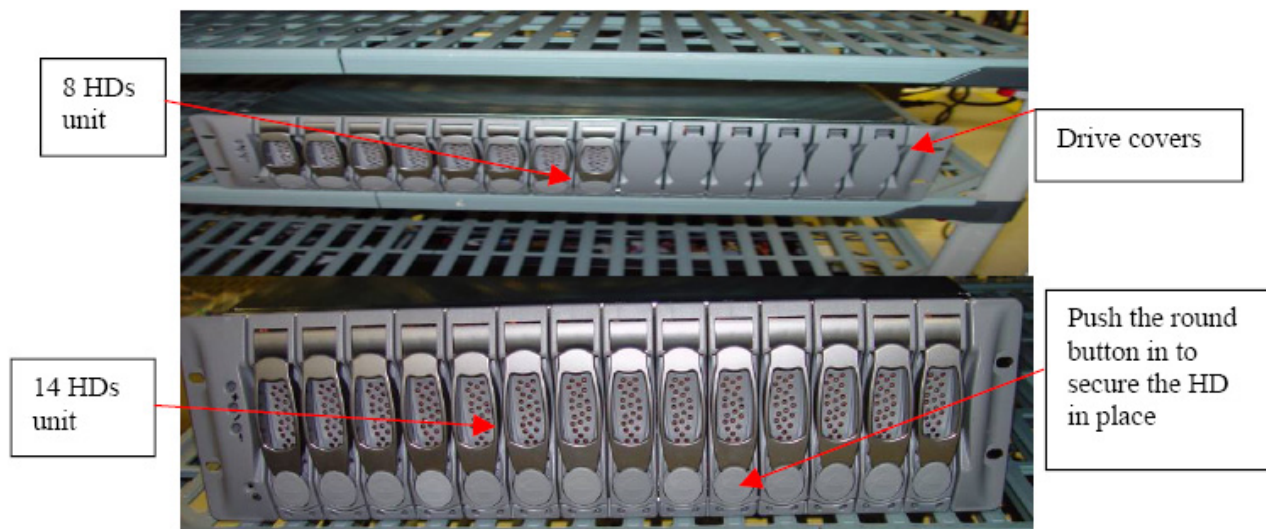


Figure 1

4. Plug in all the cables.
 - a. Connect SCSI cable:
 - The SCSI cable that connects to the system shall be connected to the BOTTOM port of HOST 0 of SATABoy.



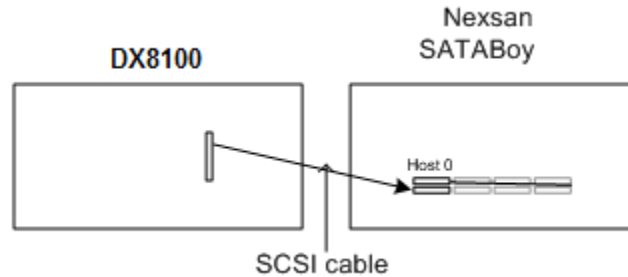


Figure 2

1. Connect to a PC and SATABoy with Cat5 Crossover cable.
2. Turn on the SATABoy and wait until three LEDs come on. (See Figure 3)
3. Turn on the PC.

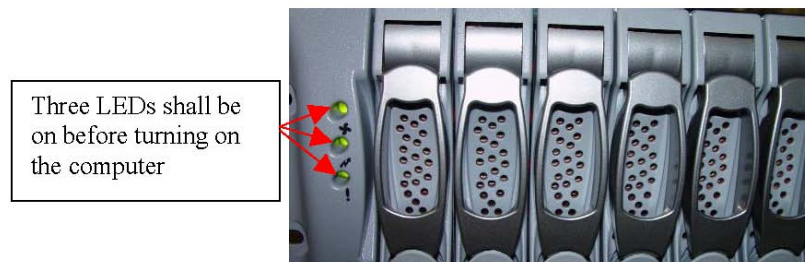


Figure 3

For New SATABoy with 8 or 14 HDs: Configure Computer

1. Right click on **My Network Place** on the desktop and then left click **Properties**.
2. Right click **Local Area Connection** and then left click **Properties**.
3. Left click **Internet Protocol (TCP/IP)**.
4. Click **Properties**.
5. Select Use the following IP address. (See Figure 4)
 - a. Record the current IP and Subnet addresses on the travel tag for later to use.
 - b. Change the IP address to **10.11.12.13**.
 - c. Change the Subnet mask to **255.255.255.0**.
 - d. Click **OK**.
 - e. Click **Close**.

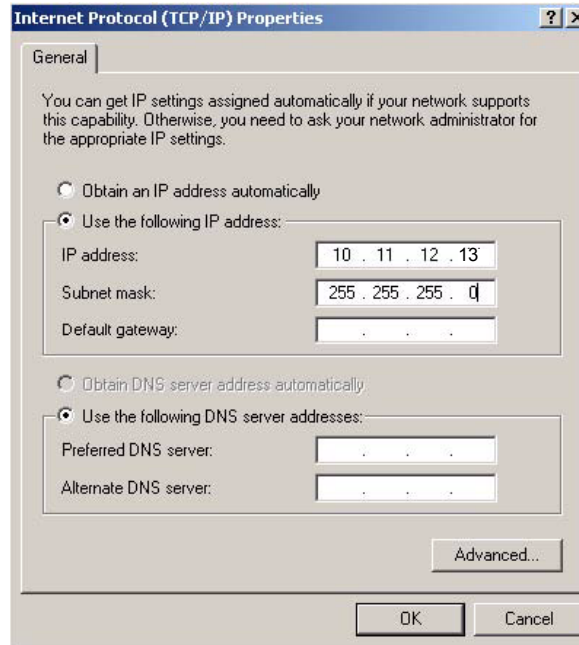


Figure 4

Configure SATABoy with 8 or 14 HDs

1. Open the Internet Explorer
2. Highlight the address bar and type 10. 11. 12. 13 and press **Enter**.
3. Click the **Login** button.
4. Click **Configure Network** under the main menu.
5. On the Configure Network, type **X.X.X.X** next to the IP address where X.X.X.X is the individual address assigned to each SATABoy. 192.168.0.2 is the sample IP address. (See Figure 5)



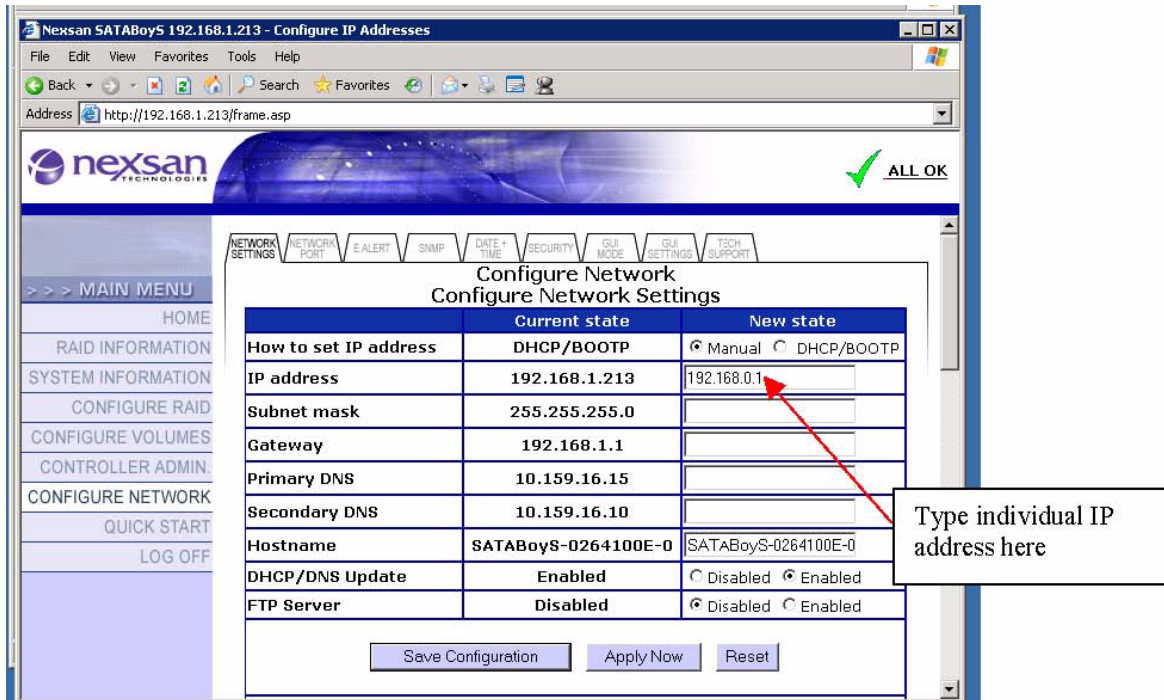


Figure 5

1. Click **Save Configuration** and close the screen.
2. Reset the SATABoy by turning off the unit for 10 seconds.
3. Unplug the Cat5 Crossover cable.
4. Plug in the network cables into the system and SATABoy
5. Power on SATABoy and wait for 60 seconds before opening Explorer.

Resume Computer Configuration

1. Right click **My Network Places** on the desktop and then left click **Properties**.
2. Right click **Local Area Connection** and then left click **Properties**.
3. Left click **Internet Protocol (TCP/IP)**.
4. Click **Properties**.

5. Under *Use the following IP address:* (See Figure 6)
 - a. Type the IP address that was recorded on the travel tag next to IP address.
 - b. Type the Subnet mask that was recorded on the travel tag next to Subnet mask.

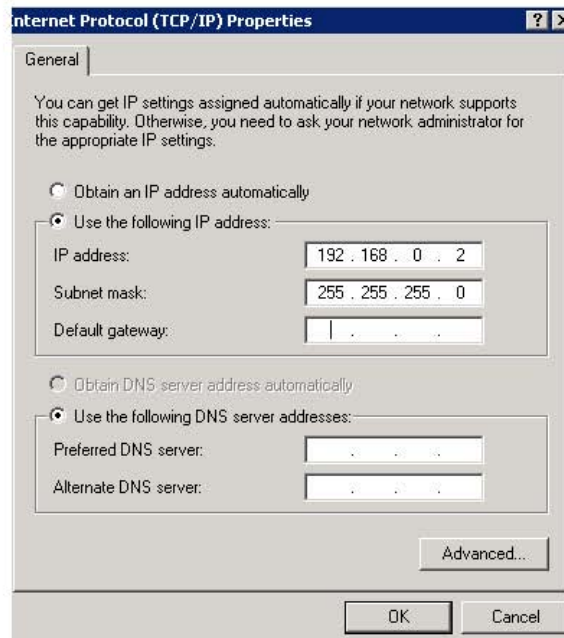


Figure 6

1. Click **OK**.
2. Click **Close**.

Resume SATABoy Configuration with 8 or 14 HDs

1. Open the Internet Explorer on the desktop.
2. Highlight the address bar and type **X.X.X.X** where X.X.X.X was chosen under Network Setting. (See Figure 5)
3. Click the **Login** button
4. Select the **RAID INFORMATION** option from the main menu.
5. Click the **Volumes** tab and check to make sure there is no free space listed on the screen.



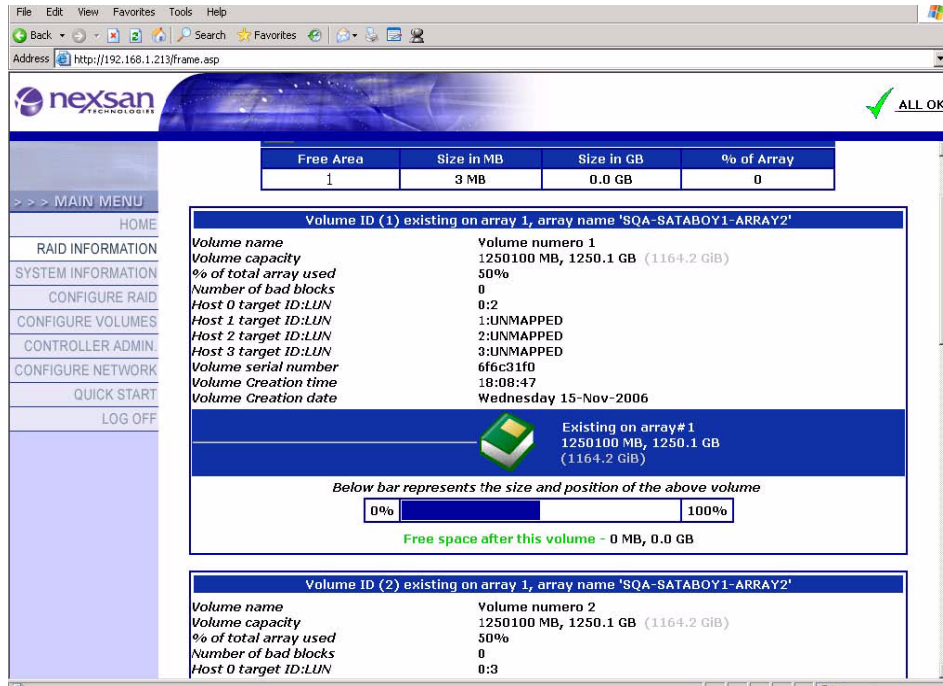


Figure 7

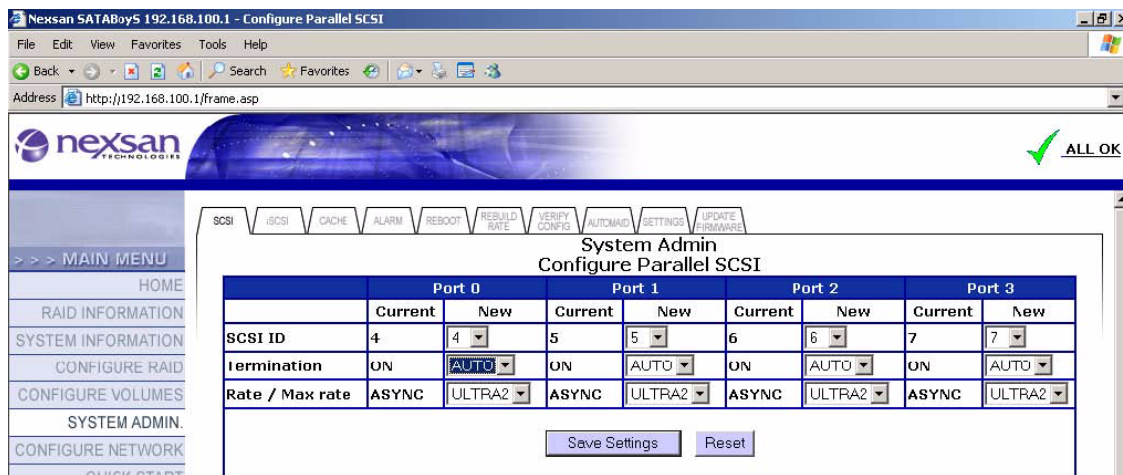


Figure 8

1. Make sure to turn on the SATABoys and wait until the three SATABoy LED lights come on before starting the DX8100.
2. Turn on the DX8100.



For Upgrading/Downgrading default SATABoy HDs configurations: (i.e. SATABoy HDs from 8 HDs to 14 HDs or 14 HDs to 8 HDs)

1. Open the Internet Explorer on the desktop.
2. Highlight the address bar and type X.X.X.X where X.X.X.X was chosen under Network Setting. (See Figure 5)
3. Click Login button
4. Delete Volume(s)
 - a. Select the **CONFIGURE VOLUMES** option under the main menu.
 - b. Select the **Delete Volume** tab.
 - c. Place a dot next to Delete Volume. (See Figure 9)
 - d. Click **Delete Volume**.
 - e. Place a checkmark above the Confirm Delete Command and click **Confirm Delete Command**.
 - f. Click **Back**.
 - g. Repeat steps a through e to delete each volume.

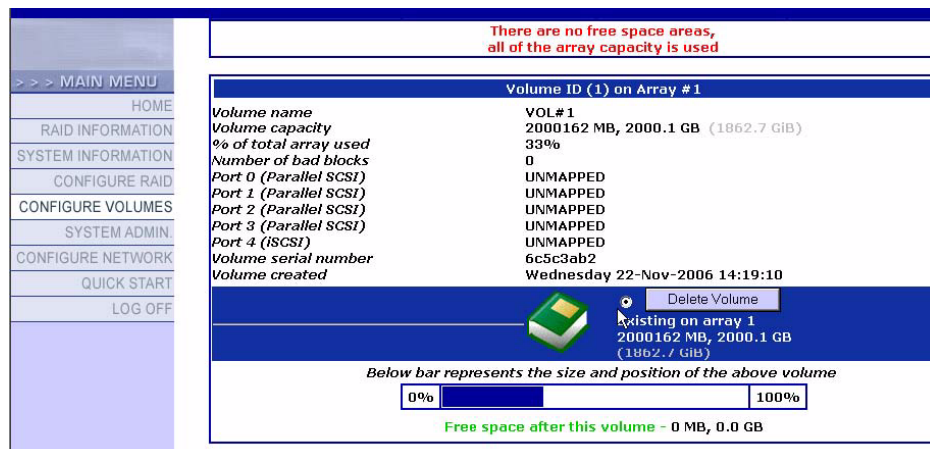


Figure 9

5. Delete Raid array.
 - a. Select **Configure Raid** under the main menu.
 - b. Select the **Delete Array** tab.
 - c. Click **Delete Array**.
 - d. Click **Confirm** button.

- e. Click **Back**.
- f. Make sure to delete each raid array.
6. Add Raid Array. (See Figure 10)
 - a. Select **Add Array** tab.
 - b. Type name next to array name. Raid1 is a sample name.
 - c. Select all disks except Pool Spare.
 - d. Click **Create Raid Set** button.
 - e. Click **Back**.

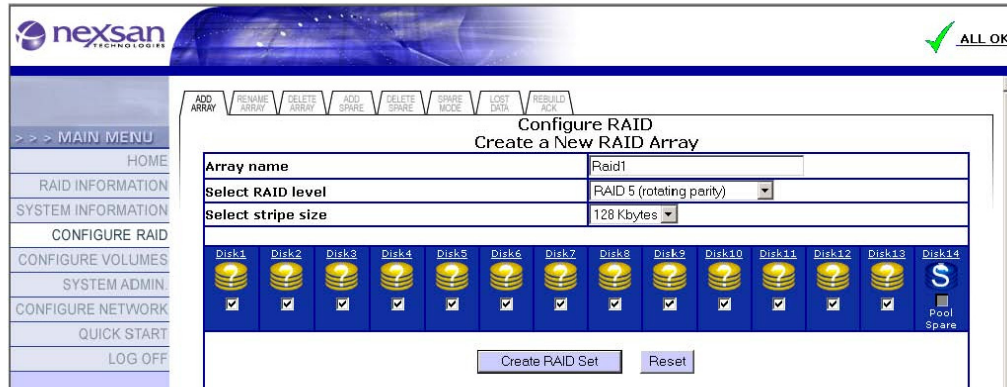


Figure 10

7. Add Volumes Note: The first volume is automatically set up after the Raid array is created. More Volumes need to be created based on the HDs of SATABoy (**three volumes for 14 HDs SATABoy and two volumes for 8HDs SATABoy**). The volume size limit is 1.7 TB.
 - a. Select the **CONFIGURE VOLUMES** option under the main menu.
 - b. Select **ADD VOLUME**.
 - c. Change the unit by placing a dot next to % and click **Change Units**.
 - d. Click **Back**.
 - e. Type the name next to *Enter the name for the new volume*. Volume #2 is a sample name
 - f. Type 100 next to *Enter the size of the new volume in % of array capacity*.
 - g. Place a check mark next to *Limit volume size to less than 2TB*.
 - h. Select LUN0 next to *Select LUN for new Volume on port 0*. (Select LUN1 for Volume 2 and so on)

- i. Click **Create Volume**. Enter settings according to Figure 11.

Nexsan SATABoys 192.168.0.1 - Create A New Volume - Windows Internet Explorer

http://192.168.0.1/frame.asp

File Edit View Favorites Tools Help

Nexsan SATABoys 192.168.0.1 - Create A New Volume

Configure Volumes
Create a Logical Volume

Array name : 'DX8100'
Array number : 1
RAID level : RAID 5 (rotating parity)
Number of members : 13

Enter the name for the new volume: Vol 1

Enter the size of the new volume in Mega bytes (MB): 1782579 MB

Reserve an optional free space area at beginning of the new volume for future expansion of a previous volume: MB

Limit volume size to less than 2TB: ☒

Select LUN for new volume on SCSI - Host 0: LUN 0

Select LUN for new volume on SCSI - Host 1: ---

Select LUN for new volume on SCSI - Host 2: ---

Select LUN for new volume on SCSI - Host 3: ---

Select LUN for new volume on iSCSI - Net 0: ---

Select LUN for new volume on iSCSI - Net 1: ---

Create Volume Reset

MB GB % MiB GiB Change Units

Figure 11

- j. After the volume is created, verify that there is no free space remaining in the raid array.

RAID Information
Configured Logical Volumes

Free space areas on 'DX8100'
Array 1
Total capacity 6.0 TB (5.4 TiB)

Free Area	Size in MB	Size in GB	% of Array
There are no free space areas, all of the array capacity is used			

Volume ID (1) on 'DX8100' (Array 1)

Volume name: Vol 1
Volume capacity: 1782579 MB, 1782.5 GB (1660.1 GiB)
% of total array used: 29%
Number of bad blocks: 0
SCSI - Host 0: LUN 0
SCSI - Host 1: UNMAPPED
SCSI - Host 2: UNMAPPED
SCSI - Host 3: UNMAPPED
iSCSI - Net 0: UNMAPPED
iSCSI - Net 1: UNMAPPED
Volume serial number: 6ECE7C6B
Volume created: Wednesday 26-Mar-2008 09:48:06

Existing on array 1
1782579 MB, 1782.5 GB (1660.1 GiB)

Below bar represents the size and position of the above volume

0% 100%

Free space after this volume - 0 MB, 0.0 GB

Figure 12



k. Click the **Back** button and repeat steps from e to i until all volumes are created. (See Figure 13)

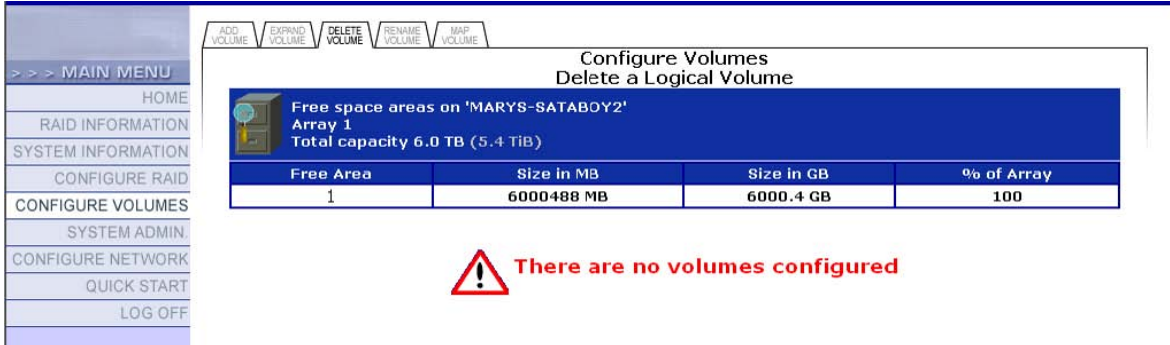


Figure 13

Configure the SATABoy to SCSI card --- Final steps for new SATABoy or modified SATABoy.
Note: Need to wait 4-5 hours for raid array to initialize if a new raid array is created.

1. Make sure the SCSI cable is connected between the SCSI card and the DX8100.
2. Start the DX8100.
3. Open the Computer Management by selecting the **Start** button, select **Run** and type **compmgmt.msc**. Click **OK** or press **Enter**.
4. Click **Disk Management**.
5. Click **Next** on the Welcome Wizard.
6. Make sure all the disks are selected and click **Next**. (See Figure 14)

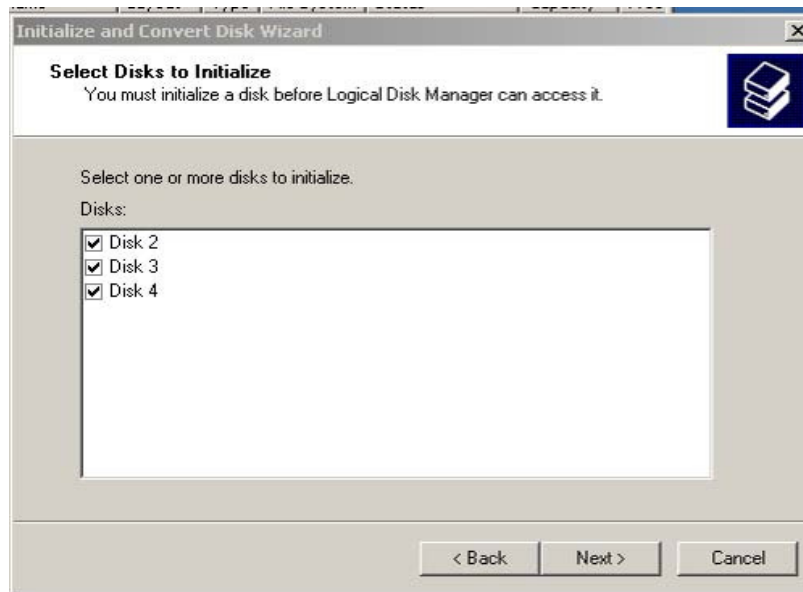


Figure 14

- Do not select any disk(s) on *Select Disk to Convert*, just click **Next**. (See Figure 15)

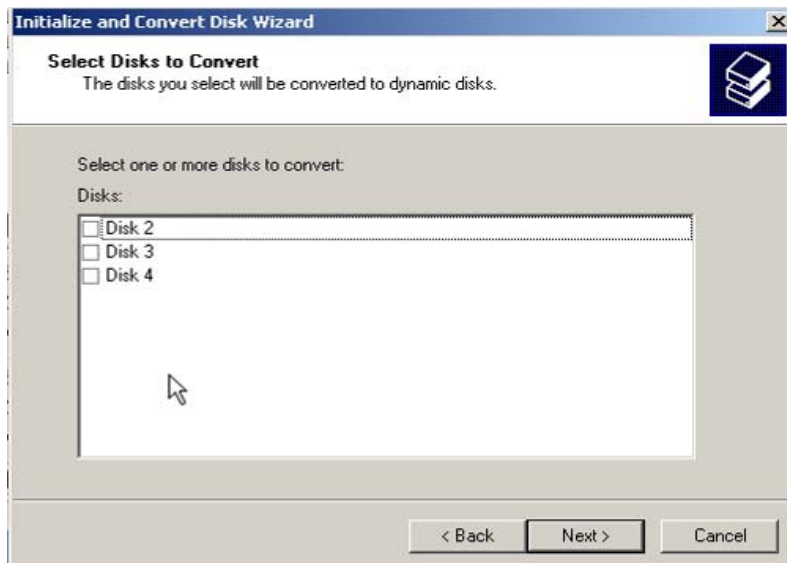


Figure 15

- Click **Finish**.
- Right click **Unallocated space** next to Disk2 and select **New Partition**. (See Figure 16)

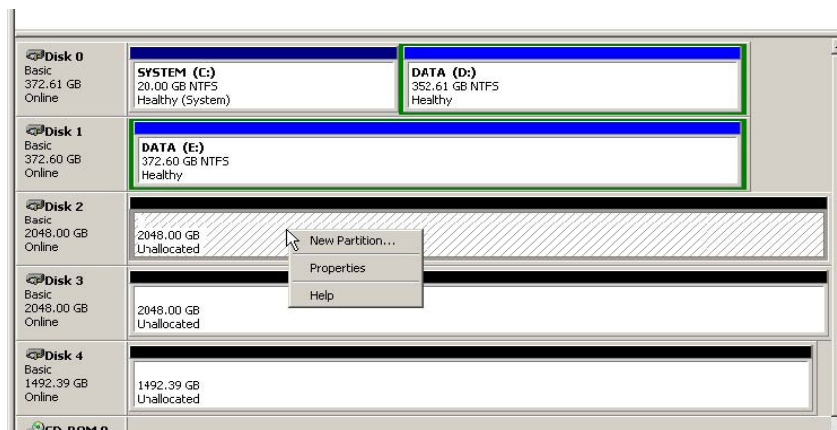


Figure 16

10. Select **Extended partition** and click **Next**. (See Figure 17)

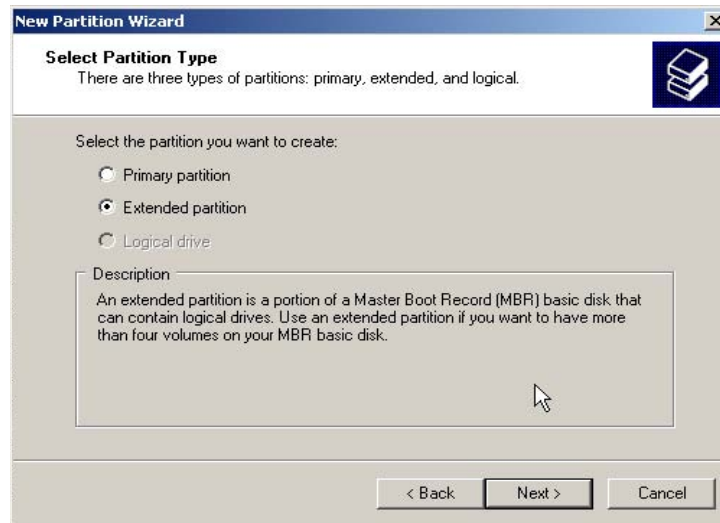


Figure 17

11. Click **Next**, **Next** and **Finish**.

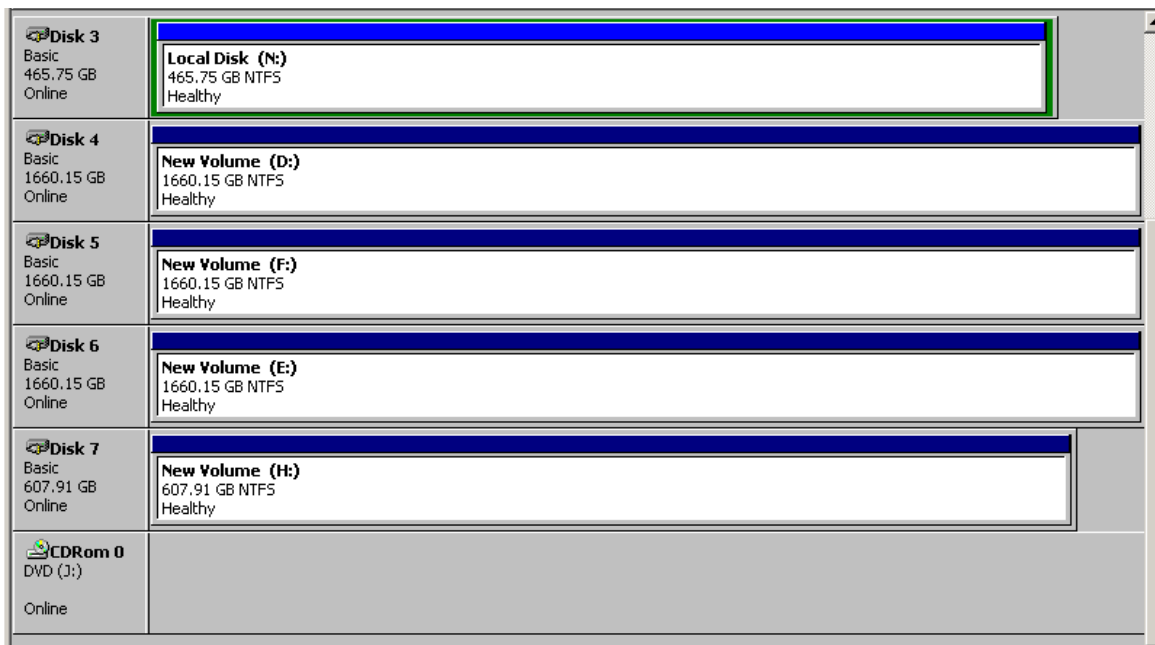


Figure 18

13. Right-click and select **New Logical drive** and click **Next** on New Partition Wizard. (See Figure 19)

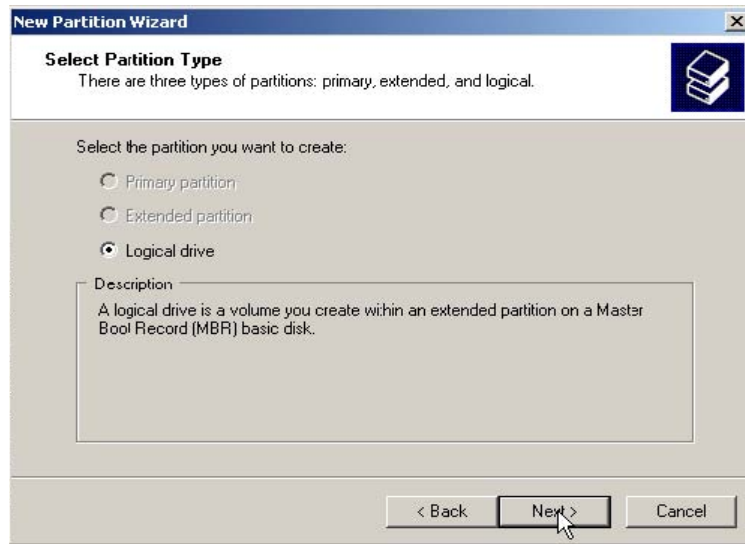


Figure 19

14. Click **Next**, **Next** and **Next**.

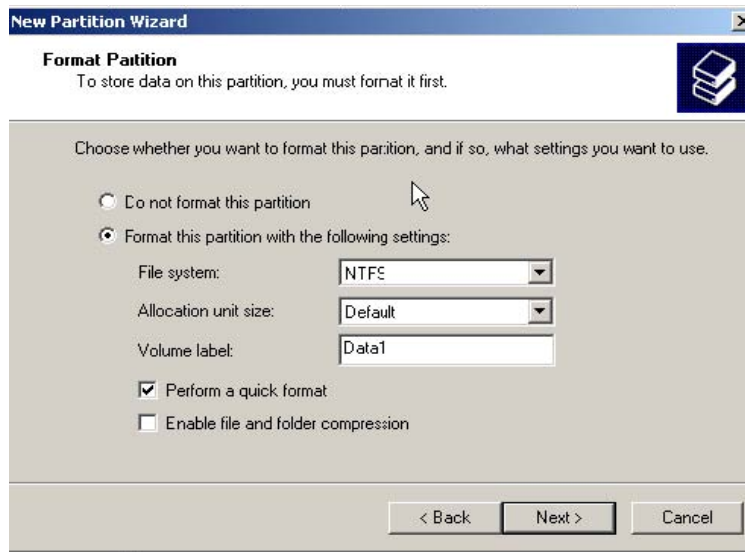


Figure 20

1. Place a checkmark next to *Perform a quick format*. (See Figure 20)
2. Click **Next** and **Finish**.
3. Repeat above steps 9-17 for each new disk.



Apply the Labels

1. Print the model and serial labels.
2. Print the IP address and Subnet mask label. Each system should have a different IP address.
3. Place the labels on top of SATABoy. (See Figure 21)



Figure 21